**Prashant Chauhan**

715, 666 Ontario Street, Toronto, ON

[prashant.chauhan@utoronto.ca](mailto:prashant.chauhan@utoronto.ca); (647)627-5620

**EMPLOYMENT EXPERIENCE**

**University of Toronto, Toronto, Canada**

**October 2014- Present**

Postdoctoral Research Associate

• Cellulose- bodipy dye nanohybrid for singlet oxygen production

• Cellulose-nitroaniline nanomaterial for nitro radical photo release and antibacterial action

• Cellulose grafted phthalocyanine as a catalyst for aerobic oxidation of alcohols and alkyl arenes

• Cellulose based materials for smart packaging

• Fabrication and Tailoring of collagen-hydroxyapatite composites

• Cellulose-Metal–organic framework (MOF) composite disc for Gas separation

• Development of nanocellulose-polypyrrole composite for anti-corrosion coating in collaboration with 3M company.

• Extraction of petroleum products from tree bark and lignin.

• Preparation of novel epoxy from starch and vegetable oils in collaboration with Lorama company.

• Green wood adhesive/polyurethane foam development from soybean meal and pine bark in collaboration with Hunstman company.

• Development of porphyrin dyes for dye-sensitized solar cells.

• Synthesis of nano-materials for anticancer treatment.

Teaching Assistant- Chemistry

• Monitored students in the lab and ensured that students were safely performing the experiment

• Conducted office hours and tutorials to answers student questions

• Provided lecture materials for the students, that would help assist in the lab

• Corrected students labs and provided grades

• Provided lecture material to undergraduate students on organic, inorganic, physical and analytical chemistry

• Conducted office hours to answers students question

**University of New Lisbon, Lisbon, Portugal**

**September 2017- August 2020**

Postdoctoral Research Associate

• Cellulose nano rods for advanced electro-optical devices (this project won international grant for Post-doctoral research for 3 years)

**Rhodes University, Grahamstown, South Africa**

**January 2014- September 2014**

Postdoctoral Research Associate

• Development of nanocellulose film coating for airplane windshield protection.

• Synthesis of phthalocyanine and fluorescent bodipy dyes for solar cells.

**University of Padua, Padua, Italy**

**January 2011- December 2013**

PhD Researcher

• Cellulose based pH-sensitive paper for multi-format optical sensing

• Preparation of cellulose-porphyrin nanohybrids

• Production of porphyrin chromophores for dye sensitized solar cells.

• Preparation of novel porphyrin dyes for determination of the absolute configuration of chiral molecules by circular dichroism.

**Ekta Scientific Services Co., Delhi, India**

**April 2008- April 2009**

Quality Analyst/Laboratory Technician

• Maintained compliance to all QA/QC, health and safety procedure.

• Developed and performed programs of analysis to ensure quality control of raw materials, chemical intermediates and final products.

• Performed analytical testing and maintenance of pre-approved methods, SOP’s, cGMP & GLP requirements.

**EDUCATION**

**University of Padua, Padua, Italy**

**December 2013**

Ph.D. : Polymer Chemistry

**University of Delhi, Delhi, India**

**July 2010**

M.Sc. : Organic Chemistry

**University of Delhi, Delhi, India**

**July 2008**

B.Sc. : Chemistry

**SKILLS**

**Analytical/Characterization Techniques:** NMR spectroscopy, IR spectroscopy, UV-Vis spectroscopy, Fluorescence spectroscopy, high pressure liquid chromatography (HPLC), size exclusion chromatography (SEC), gas chromatography (GC-GC/MS), Mass spectrometry (Maldi, ESI-MS), atomic absorption spectroscopy (AAS), Inductively coupled plasma (ICP-MS /ICP-OES), Thermogravimetric analysis (TGA), differential scanning calorimetry (DSC) , Instron (tensile, compression, fatigue, impact, rheology, and structural testing machines), American Society for Testing and Materials (ASTM), Malvern-shape, size, zeta-potential, Transmission electron microscopy  (TEM), scanning electron microscope (SEM), X-ray diffraction(XRD), High Pressure Power Reactor, Microwave reactor.

**Synthesis:** Multi-step organic synthesis (high pressure reactions; can handle reactions in oxygen, hydrogen, carbon monoxide, carbon dioxide, nitrogen and argon atmosphere; air and moisture sensitive reactions); polymer synthesis, monomer synthesis, step growth polymerization, radical polymerization etc.

**SCIENTIFIC POSITION, COMMUNITY SERVICE, HONOURS AND AWARDS**

• Scientific reviewer for international peer journals: Wiley, RSC (Royal Society of Chemistry) and ACS (American Chemical Society)

• Vice Chair of CUPE (Canadian Union of Public Employees) 3902, Unit 5 at University of Toronto

• Post Doctoral Grant from Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal, 2017-2020.

• Scientific Advisor at NGO: Urban Farming Initiative

• Erasmus Mundus Ph.D. Grant, Italy, Jan 2011- Dec 2013

• Summer Internship Programme, Department of Chemistry National University of Singapore, Singapore, June-July 2009.

**PUBLICATIONS**

• Pratibha Kumari, Niharika Sinha, **Prashant Chauhan** and Shive M.S. Chauhan: Isolation, Synthesis and Biomimetic Reactions of Metalloporphyrinoids in Ionic Liquids; *Current Organic Synthesis,* **2011**, 8, 393-437.

• **Prashant Chauhan**, Caroline Hadad, Andrea Sartorelli, Marco Zarattini, Ana Herreros López, Miriam Mba, Michele Maggini, Maurizio Prato, and Tommaso Carofiglio: Nanocrystalline Cellulose - Porphyrin Hybrids: Synthesis, Supramolecular Properties, and Singlet-Oxygen Production; *Chemm Commun.*, **2013**, 49, 8525-8527.

• **Prashant Chauhan**, Caroline Hadad, Ana Herreros López, Simone Silvestrini, Valeria La Parola, Enrico Frison, Michele Maggini, Maurizio Prato and Tommaso Carofiglio: A Nanocellulose-Dye Conjugate for Multi-Format Optical pH-Sensing; *Chem. Commun.*, **2014**, 50, 9493-9496.

• Pratibha Kumari, Ritika Nagpal, **Prashant Chauhan**, Vinith Yatindranath and Shive M. S. Chauhan Efficient iron(III) porphyrins-catalyzed oxidation of guanidoximes to cyanamides in ionic liquids; *J. Chem. Sci.*, **2015,** 127, 13-18.

• Sohail Ahmad, Kartik Kumar Yadav, Soumee Bhattacharya, **Prashant Chauhan** and Shive Chauhan: Synthesis of 21,23 Selenium and Tellurium substituted 5-Porphomethenes, 5,10Porphodimethenes, 5,15-Porphodimethenes, and Porphotrimethenes and their interactions with mercury; *J. Org. Chem.*, **2015**, 80, 3880-3890.

• **Prashant Chauhan** and Ning Yan: Nanocrystalline cellulose grafted phthalocyanine: a heterogeneous catalyst for selective aerobic oxidation of alcohols and alkyl arenes at room temperature in green solvent; *RSC Adv.*, **2015**, 5, 37517-37520.

• **Prashant Chauhan** and Ning Yan: Novel bodipy—cellulose nanohybrids for production of singlet oxygen; *RSC Adv.*, **2016**, 6, 32070-32073.

•**Prashant Chauhan**, Kenneth Chu, Ning Yan and Zhifeng Ding: Comparison study of electrochemiluminescence of boron-dipyrromethene (BODIPY) dyes in aprotic and aqueous solutions; *J. Electroanal. Chem.*, **2016**, 781, 181-189.

• Smriti Arora, Ritika Nagpal, **Prashant Chauhan** and Shive Murat Singh Chauhan: Triazole linked Ruthenium(II) porphyrin: Influence of connectivity pattern on photophysical and electrochemical properties; *New J. Chem.*, **2016**, 40, 8878-8885.

• P. Linga Reddy, Racha Arundhathi, Mohit Tripathi, **Prashant Chauhan**, Ning Yan and Diwan S. Rawat Solvent free Oxidative Synthesis of 2-Substituted Benzimidazoles by Immobilized Cobalt Oxide Nanoparticles on Alumina/Silica support, *Chem. Select*, **2017**, 2, 3889-3895.

• **Prashant Chauhan** and Ning Yan: Novel nitroaniline-cellulose nanohybrids: nitro radical photorelease and its antibacterial action, *Carbo. Poly.*, **2017**, 174, 1106-1113.